



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,015	04/05/2001	Robert Osann JR.		3460

23910 7590 12/12/2002

FLIESLER DUBB MEYER & LOVEJOY, LLP
FOUR EMBARCADERO CENTER
SUITE 400
SAN FRANCISCO, CA 94111

EXAMINER

NGUYEN, LINH M

ART UNIT	PAPER NUMBER
----------	--------------

2816

DATE MAILED: 12/12/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,015

Applicant(s)

OSANN ET AL.

Examiner

Linh M. Nguyen

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-42 and 45-48 is/are allowed.
- 6) ☒ Claim(s) 24-27, 30 and 43 is/are rejected.
- 7) ☒ Claim(s) 28, 29 and 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

This is a reply to the Applicants' response to the Election/Restriction Requirement submitted on October 24th, 2002. In this response, the Applicants elect the claims of Embodiment II (claims 24-48) and withdraw the non-elected claims of Embodiment I (including claims 1-23 and 49-50).

For a complete record, a copy of the Election/Restriction Requirement is being provided herein:

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Embodiment I: Fig. 16, including claims 1-23 and 49-50 (classified in class 716, subclass 16), drawn to a method or process for forming a programmable logic array (PLA), which can be implemented manually and/or with a computer;

Embodiment II: Fig. 10, including claims 24-48 (classified in class 326, subclass 39), drawn to a structure of an integrated circuit with a PLA therein;

Wherein:

Embodiment I describes different steps/processes for forming a PLA, which can be implemented manually, or play as instructions to be provided to a computer readable storage medium for forming a PLA;

Embodiment II describes a structure of a PLA to be configured in an integrated circuit.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims is considered generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. A telephone call was made to Mr. Larry Harris on 06/24/2002 to request an oral election to the above election/restriction requirement, but did not result in an election being made.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Response to the Applicants' Election

4. Applicants' election of claims 24-48 (Embodiment II) in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

5. The drawings are objected to because of:

- (i) lacking Prior Art labels in figures 1, 2, 3, 4, 5, 5a, 6, and 7; and
- (ii) illegible reference numerals/labels in figures 1-21.

6. Figures 1-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 24-27, 30, and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Steele et al. (U.S. Patent No. 6,029,236).

With respect to claim 24, Steele et al. discloses, in figures 1-2, 8-9, and 11, an integrated circuit comprising a programmable logic array having a non-regular structure (*since input lines of global interconnect matrix [90] are not orthogonal to product lines AND array within [VLA14]*).

With respect to claim 25, Steele et al. discloses, *in col. 4, lines 66 – col. 5, line 9; and col. 6, lines 7-11*, that the PLA has been depopulated to include only programmable connections necessary to implement certain functionality to be implemented by the PLA.

With respect to claim 26, Steele et al. discloses that the PLA includes (i) programmable connections [SRAM] necessary to implement certain known functionality to be implemented by the PLA (*see col. 4, lines 40-47; col. 5, lines 57-67*), and (ii) programmable connections strategically selected to accommodate future programming of other functionality, but that do not amount to full population of programmable connections (*see col. 6, lines 1-11*).

With respect to claim 27, Steele et al. discloses, in figure 7, that the PLA includes (i) programmable connections that include a storage device [SRAM or VLA14] and a logic gate [MUX 18], and (ii) product terms (AND array) and sum terms (OR array) formed with gate trees (*see figures 1-2 and 8*).

With respect to claim 30, Steele et al. discloses, in figures 1-2, 8-9, and 11, that the PLA is constructed so that it maintains its performance characteristics on reprogramming (*via SRAM*).

With respect to claim 43, Steele et al. discloses, in figure 7, that the PLA includes (i) programmable connections that include a storage device [SRAM or VLA14] and a logic gate [MUX 18], and (ii) product terms (AND array) that include a gate tree (*see figures 1-2 and 8*).

Allowable Subject Matter

9. Claims 31-42 and 45-48 are allowed.

10. Claims 28-29 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or suggest (1) the configuration of a pair of storage devices and a multiplexer in programmable connections of the PLA, as called for in claim 28, (2) the configuration of the following devices in the PLA: (i) an AND array that includes programmable connections that each include a pair of storage devices and a multiplexer, and (ii) an OR array that includes programmable connections that each include only one storage device and a logic gate, as called for in claim 29, (3) an integrated circuit having a PLA which is selectively minimally repopulated to accommodate future programming of other functionality, as called for in independent claims 31 and 40, (4) the configuration of the following elements in the PLA: (i) a storage device which is a one of a latch or a flip-flop, and (ii) a logic gate which is one of a multiplexer or an OR gate, as called for in claim 44, (5) programmable connections that include a pair of storage devices and a multiplexer, as called for in claim 45, and (6) a PLA including (i) an AND array that includes a first type of programmable connection, and (ii) an OR array that includes a second type of programmable connection, as called for in independent claim 47.

Citation of relevant prior art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Schleicher (U.S. Patent No. 6,263,482) discloses a PLD having macrocells with selectable product-terms inversion.

Prior art Norman et al. (U.S. Patent No. 5,821,773) discloses a PLD having a look-up table.

Prior art Turner et al. (U.S. Patent No. 4,761,768) discloses a PLD.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (703) 308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-0142 for regular communications and (703) 305-0142 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Linh M. Nguyen
Examiner
Art Unit 2816

LMN
December 10, 2002

